

SEQUENCE LISTING

<110> REGEN Biotech, Inc.
 <120> Use of a peptide that interacts with alpha v beta3 integrin of endothelial cell
 <130> OP04-1024
 <150> KR 10-2003-0021065
 <151> 2003-04-03
 <160> 27
 <170> KopatentIn 1.71
 <210> 1
 <211> 683
 <212> PRT
 <213> Homo sapiens
 <400> 1
 Met Ala Leu Phe Val Arg Leu Leu Ala Leu Ala Leu Ala Leu
 1 5 10 15
 Gly Pro Ala Ala Thr Leu Ala Gly Pro Ala Lys Ser Pro Tyr Gln Leu
 20 25 30
 Val Leu Gln His Ser Arg Leu Arg Gly Arg Gln His Gly Pro Asn Val
 35 40 45
 Cys Ala Val Gln Lys Val Ile Gly Thr Asn Arg Lys Tyr Phe Thr Asn
 50 55 60
 Cys Lys Gln Trp Tyr Gln Arg Lys Ile Cys Gly Lys Ser Thr Val Ile
 65 70 75 80
 Ser Tyr Glu Cys Cys Pro Gly Tyr Glu Lys Val Pro Gly Glu Lys Gly
 85 90 95
 Cys Pro Ala Ala Leu Pro Leu Ser Asn Leu Tyr Glu Thr Leu Gly Val
 100 105 110
 Val Gly Ser Thr Thr Thr Gln Leu Tyr Thr Asp Arg Thr Glu Lys Leu
 115 120 125
 Arg Pro Glu Met Glu Gly Pro Gly Ser Phe Thr Ile Phe Ala Pro Ser
 130 135 140
 Asn Glu Ala Trp Ala Ser Leu Pro Ala Glu Val Leu Asp Ser Leu Val
 145 150 155 160

Ser Asn Val Asn Ile Glu Leu Leu Asn Ala Leu Arg Tyr His Met Val
 165 170 175
 Gly Arg Arg Val Leu Thr Asp Glu Leu Lys His Gly Met Thr Leu Thr
 180 185 190
 Ser Met Tyr Gln Asn Ser Asn Ile Gln Ile His His Tyr Pro Asn Gly
 195 200 205
 Ile Val Thr Val Asn Cys Ala Arg Leu Leu Lys Ala Asp His His Ala
 210 215 220
 Thr Asn Gly Val Val His Leu Ile Asp Lys Val Ile Ser Thr Ile Thr
 225 230 235 240
 Asn Asn Ile Gln Gln Ile Ile Glu Ile Glu Asp Thr Phe Glu Thr Leu
 245 250 255
 Arg Ala Ala Val Ala Ala Ser Gly Leu Asn Thr Met Leu Glu Gly Asn
 260 265 270
 Gly Gln Tyr Thr Leu Leu Ala Pro Thr Asn Glu Ala Phe Glu Lys Ile
 275 280 285
 Pro Ser Glu Thr Leu Asn Arg Ile Leu Gly Asp Pro Glu Ala Leu Arg
 290 295 300
 Asp Leu Leu Asn Asn His Ile Leu Lys Ser Ala Met Cys Ala Glu Ala
 305 310 315 320
 Ile Val Ala Gly Leu Ser Val Glu Thr Leu Glu Gly Thr Thr Leu Glu
 325 330 335
 Val Gly Cys Ser Gly Asp Met Leu Thr Ile Asn Gly Lys Ala Ile Ile
 340 345 350
 Ser Asn Lys Asp Ile Leu Ala Thr Asn Gly Val Ile His Tyr Ile Asp
 355 360 365
 Glu Leu Leu Ile Pro Asp Ser Ala Lys Thr Leu Phe Glu Leu Ala Ala
 370 375 380
 Glu Ser Asp Val Ser Thr Ala Ile Asp Leu Phe Arg Gln Ala Gly Leu
 385 390 395 400
 Gly Asn His Leu Ser Gly Ser Glu Arg Leu Thr Leu Leu Ala Pro Leu
 405 410 415
 Asn Ser Val Phe Lys Asp Gly Thr Pro Pro Ile Asp Ala His Thr Arg
 420 425 430

Asn Leu Leu Arg Asn His Ile Ile Lys Asp Gln Leu Ala Ser Lys Tyr
 435 440 445
 Leu Tyr His Gly Gln Thr Leu Glu Thr Leu Gly Gly Lys Lys Leu Arg
 450 455 460
 Val Phe Val Tyr Arg Asn Ser Leu Cys Ile Glu Asn Ser Cys Ile Ala
 465 470 475 480
 Ala His Asp Lys Arg Gly Arg Tyr Gly Thr Leu Phe Thr Met Asp Arg
 485 490 495
 Val Leu Thr Pro Pro Met Gly Thr Val Met Asp Val Leu Lys Gly Asp
 500 505 510
 Asn Arg Phe Ser Met Leu Val Ala Ala Ile Gln Ser Ala Gly Leu Thr
 515 520 525
 Glu Thr Leu Asn Arg Glu Gly Val Tyr Thr Val Phe Ala Pro Thr Asn
 530 535 540
 Glu Ala Phe Arg Ala Leu Pro Pro Arg Glu Arg Ser Arg Leu Leu Gly
 545 550 555 560
 Asp Ala Lys Glu Leu Ala Asn Ile Leu Lys Tyr His Ile Gly Asp Glu
 565 570 575
 Ile Leu Val Ser Gly Gly Ile Gly Ala Leu Val Arg Leu Lys Ser Leu
 580 585 590
 Gln Gly Asp Lys Leu Glu Val Ser Leu Lys Asn Asn Val Val Ser Val
 595 600 605
 Asn Lys Glu Pro Val Ala Glu Pro Asp Ile Met Ala Thr Asn Gly Val
 610 615 620
 Val His Val Ile Thr Asn Val Leu Gln Pro Pro Ala Asn Arg Pro Gln
 625 630 635 640
 Glu Arg Gly Asp Glu Leu Ala Asp Ser Ala Leu Glu Ile Phe Lys Gln
 645 650 655
 Ala Ser Ala Phe Ser Arg Ala Ser Gln Arg Ser Val Arg Leu Ala Pro
 660 665 670
 Val Tyr Gln Lys Leu Leu Glu Arg Met Lys His
 675 680

<210> 2
 <211> 103
 <212> PRT

<213> Homo sapiens

<400> 2

Gly Pro Gly Ser Phe Thr Ile Phe Ala Pro Ser Asn Glu Ala Trp Ala
1 5 10 15

Ser Leu Pro Ala Glu Val Leu Asp Ser Leu Val Ser Asn Val Asn Ile
20 25 30

Glu Leu Leu Asn Ala Leu Arg Tyr His Met Val Gly Arg Arg Val Leu
35 40 45

Thr Asp Glu Leu Lys His Gly Met Thr Leu Thr Ser Met Tyr Gln Asn
50 55 60

Ser Asn Ile Gln Ile His His Tyr Pro Asn Gly Ile Val Thr Val Asn
65 70 75 80

Cys Ala Arg Leu Leu Lys Ala Asp His His Ala Thr Asn Gly Val Val
85 90 95

His Leu Ile Asp Lys Val Ile
100

<210> 3

<211> 131

<212> PRT

<213> Homo sapiens

<400> 3

Asn Ile Gln Gln Ile Ile Glu Ile Glu Asp Thr Phe Glu Thr Leu Arg
1 5 10 15

Ala Ala Val Ala Ala Ser Gly Leu Asn Thr Met Leu Glu Gly Asn Gly
20 25 30

Gln Tyr Thr Leu Leu Ala Pro Thr Asn Glu Ala Phe Glu Lys Ile Pro
35 40 45

Ser Glu Thr Leu Asn Arg Ile Leu Gly Asp Pro Glu Ala Leu Arg Asp
50 55 60

Leu Leu Asn Asn His Ile Leu Lys Ser Ala Met Cys Ala Glu Ala Ile
65 70 75 80

Val Ala Gly Leu Ser Val Glu Thr Leu Glu Gly Thr Thr Leu Glu Val
85 90 95

Gly Cys Ser Gly Asp Met Leu Thr Ile Asn Gly Lys Ala Ile Ile Ser
100 105 110

Asn Lys Asp Ile Leu Ala Thr Asn Gly Val Ile His Tyr Ile Asp Glu
 115 120 125

Leu Leu Ile
 130

<210> 4
 <211> 129
 <212> PRT
 <213> Homo sapiens

<400> 4
 Pro Asp Ser Ala Lys Thr Leu Phe Glu Leu Ala Ala Glu Ser Asp Val
 1 5 10 15

Ser Thr Ala Ile Asp Leu Phe Arg Gln Ala Gly Leu Gly Asn His Leu
 20 25 30

Ser Gly Ser Glu Arg Leu Thr Leu Leu Ala Pro Leu Asn Ser Val Phe
 35 40 45

Lys Asp Gly Thr Pro Pro Ile Asp Ala His Thr Arg Asn Leu Leu Arg
 50 55 60

Asn His Ile Ile Lys Asp Gln Leu Ala Ser Lys Tyr Leu Tyr His Gly
 65 70 75 80

Gln Thr Leu Glu Thr Leu Gly Gly Lys Lys Leu Arg Val Phe Val Tyr
 85 90 95

Arg Asn Ser Leu Cys Ile Glu Asn Ser Cys Ile Ala Ala His Asp Lys
 100 105 110

Arg Gly Arg Tyr Gly Thr Leu Phe Thr Met Asp Arg Val Leu Thr Pro
 115 120 125

Pro

<210> 5
 <211> 131
 <212> PRT
 <213> Homo sapiens

<400> 5
 Met Gly Thr Val Met Asp Val Leu Lys Gly Asp Asn Arg Phe Ser Met
 1 5 10 15

Leu Val Ala Ala Ile Gln Ser Ala Gly Leu Thr Glu Thr Leu Asn Arg
 20 25 30

Glu Gly Val Tyr Thr Val Phe Ala Pro Thr Asn Glu Ala Phe Arg Ala
 35 40 45

Leu Pro Pro Arg Glu Arg Ser Arg Leu Leu Gly Asp Ala Lys Glu Leu
 50 55 60

Ala Asn Ile Leu Lys Tyr His Ile Gly Asp Glu Ile Leu Val Ser Gly
 65 70 75 80

Gly Ile Gly Ala Leu Val Arg Leu Lys Ser Leu Gln Gly Asp Lys Leu
 85 90 95

Glu Val Ser Leu Lys Asn Asn Val Val Ser Val Asn Lys Glu Pro Val
 100 105 110

Ala Glu Pro Asp Ile Met Ala Thr Asn Gly Val Val His Val Ile Thr
 115 120 125

Asn Val Leu
 130

<210> 6
 <211> 85
 <212> PRT
 <213> Homo sapiens

<400> 6
 Arg Ala Leu Pro Pro Arg Glu Arg Ser Arg Leu Leu Gly Asp Ala Lys
 1 5 10 15

Glu Leu Ala Asn Ile Leu Lys Tyr His Ile Gly Asp Glu Ile Leu Val
 20 25 30

Ser Gly Gly Ile Gly Ala Leu Val Arg Leu Lys Ser Leu Gln Gly Asp
 35 40 45

Lys Leu Glu Val Ser Leu Lys Asn Asn Val Val Ser Val Asn Lys Glu
 50 55 60

Pro Val Ala Glu Pro Asp Ile Met Ala Thr Asn Gly Val Val His Val
 65 70 75 80

Ile Thr Asn Val Leu
 85

<210> 7
 <211> 119
 <212> PRT
 <213> Homo sapiens

<400> 7

Met Gly Thr Val Met Asp Val Leu Lys Gly Asp Asn Arg Phe Ser Met
 1 5 10 15

Leu Val Ala Ala Ile Gln Ser Ala Gly Leu Thr Glu Thr Leu Asn Arg
 20 25 30

Glu Gly Val Tyr Thr Val Phe Ala Pro Thr Asn Glu Ala Phe Arg Ala
 35 40 45

Leu Pro Pro Arg Glu Arg Ser Arg Leu Leu Gly Asp Ala Lys Glu Leu
 50 55 60

Ala Asn Ile Leu Lys Tyr His Ile Gly Asp Glu Ile Leu Val Ser Gly
 65 70 75 80

Gly Ile Gly Ala Leu Val Arg Leu Lys Ser Leu Gln Gly Asp Lys Leu
 85 90 95

Glu Val Ser Leu Lys Asn Asn Val Val Ser Val Asn Lys Glu Pro Val
 100 105 110

Ala Glu Pro Asp Ile Met Ala
 115

<210> 8

<211> 113

<212> PRT

<213> Homo sapiens

<400> 8

Met Gly Thr Val Met Asp Val Leu Lys Gly Asp Asn Arg Phe Ser Met
 1 5 10 15

Leu Val Ala Ala Ile Gln Ser Ala Gly Leu Thr Glu Thr Leu Asn Arg
 20 25 30

Glu Gly Val Tyr Thr Val Phe Ala Pro Thr Asn Glu Ala Phe Arg Ala
 35 40 45

Leu Pro Pro Arg Glu Arg Ser Arg Leu Leu Gly Asp Ala Lys Glu Leu
 50 55 60

Ala Asn Ile Leu Lys Tyr His Ile Gly Asp Glu Ile Leu Val Ser Gly
 65 70 75 80

Gly Ile Gly Ala Leu Val Arg Leu Lys Ser Leu Gln Gly Asp Lys Leu
 85 90 95

Glu Val Ser Leu Lys Asn Asn Val Val Ser Val Asn Lys Glu Pro Val

100 105 110

Ala

<210> 9
 <211> 73
 <212> PRT
 <213> Homo sapiens

<400> 9
 Arg Ala Leu Pro Pro Arg Glu Arg Ser Arg Leu Leu Gly Asp Ala Lys
 1 5 10 15
 Glu Leu Ala Asn Ile Leu Lys Tyr His Ile Gly Asp Glu Ile Leu Val
 20 25 30
 Ser Gly Gly Ile Gly Ala Leu Val Arg Leu Lys Ser Leu Gln Gly Asp
 35 40 45
 Lys Leu Glu Val Ser Leu Lys Asn Asn Val Val Ser Val Asn Lys Glu
 50 55 60
 Pro Val Ala Glu Pro Asp Ile Met Ala
 65 70

<210> 10
 <211> 67
 <212> PRT
 <213> Homo sapiens

<400> 10
 Arg Ala Leu Pro Pro Arg Glu Arg Ser Arg Leu Leu Gly Asp Ala Lys
 1 5 10 15
 Glu Leu Ala Asn Ile Leu Lys Tyr His Ile Gly Asp Glu Ile Leu Val
 20 25 30
 Ser Gly Gly Ile Gly Ala Leu Val Arg Leu Lys Ser Leu Gln Gly Asp
 35 40 45
 Lys Leu Glu Val Ser Leu Lys Asn Asn Val Val Ser Val Asn Lys Glu
 50 55 60
 Pro Val Ala
 65

<210> 11
 <211> 18

<212> PRT
 <213> Artificial Sequence

<220>
 <223> D-IV-AA(18)

<400> 11
 Lys Glu Leu Ala Asn Ile Leu Lys Ala Ala Ile Gly Asp Glu Ile Leu
 1 5 10 15

Val Ser

<210> 12
 <211> 18
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> D-IV-L(18)

<400> 12
 Lys Glu Ser Ala Asn Ser Ser Lys Tyr His Ile Gly Asp Glu Ile Leu
 1 5 10 15

Val Ser

<210> 13
 <211> 18
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> D-IV-R(18)

<400> 13
 Lys Glu Leu Ala Asn Ile Leu Lys Tyr His Ser Gly Asp Glu Ser Ser
 1 5 10 15

Val Ser

<210> 14
 <211> 18
 <212> PRT

<213> Artificial Sequence

<220>

<223> D-IV-LYHR(18)

<400> 14

Lys Glu Ser Ala Asn Ser Ser Lys Tyr His Ser Gly Asp Glu Ser Ser
1 5 10 15

Val Ser

<210> 15

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> D-IV-LAA(18)

<400> 15

Lys Glu Ser Ala Asn Ser Ser Lys Ala Ala Ile Gly Asp Glu Ile Leu
1 5 10 15

Val Ser

<210> 16

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> D-IV-AAR(18)

<400> 16

Lys Glu Leu Ala Asn Ile Leu Lys Ala Ala Ser Gly Asp Glu Ser Ser
1 5 10 15

Val Ser

<210> 17

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> D-IV-AA

<400> 17

Gly Asp Ala Lys Glu Leu Ala Asn Ile Leu Lys Ala Ala Ile Gly Asp
 1 5 10 15

Glu Ile Leu Val Ser Gly Gly Ile Gly Ala Leu Val Arg
 20 25

<210> 18

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> D-IV-L

<400> 18

Gly Asp Ala Lys Glu Ser Ala Asn Ser Ser Lys Tyr His Ile Gly Asp
 1 5 10 15

Glu Ile Leu Val Ser Gly Gly Ile Gly Ala Leu Val Arg
 20 25

<210> 19

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> D-IV-R

<400> 19

Gly Asp Ala Lys Glu Leu Ala Asn Ile Leu Lys Tyr His Ser Gly Asp
 1 5 10 15

Glu Ser Ser Val Ser Gly Gly Ile Gly Ala Leu Val Arg
 20 25

<210> 20

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> D-IV-LYHR

<400> 20

Gly Asp Ala Lys Glu Ser Ala Asn Ser Ser Lys Tyr His Ser Gly Asp
1 5 10 15

Glu Ser Ser Val Ser Gly Gly Ile Gly Ala Leu Val Arg
20 25

<210> 21

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> D-IV-LAA

<400> 21

Gly Asp Ala Lys Glu Ser Ala Asn Ser Ser Lys Ala Ala Ile Gly Asp
1 5 10 15

Glu Ile Leu Val Ser Gly Gly Ile Gly Ala Leu Val Arg
20 25

<210> 22

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> D-IV-AAR

<400> 22

Gly Asp Ala Lys Glu Leu Ala Asn Ile Leu Lys Ala Ala Ser Gly Asp
1 5 10 15

Glu Ser Ser Val Ser Gly Gly Ile Gly Ala Leu Val Arg
20 25

<210> 23

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> D-I YH18

<400> 23

Ile Glu Leu Leu Asn Ala Leu Arg Tyr His Met Val Gly Arg Arg Val
 1 5 10 15

Leu Thr

<210> 24

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> D-II YH18

<400> 24

Glu Ala Leu Arg Asp Leu Leu Asn Asn His Ile Leu Lys Ser Ala Met
 1 5 10 15

Cys Ala

<210> 25

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> D-III YH18

<400> 25

Asp Gln Leu Ala Ser Lys Tyr Leu Tyr His Gly Gln Thr Leu Glu Thr
 1 5 10 15

Leu Gly

<210> 26

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> D-IV YH18

<400> 26

Lys Glu Leu Ala Asn Ile Leu Lys Tyr His Ile Gly Asp Glu Ile Leu
 1 5 10 15

Val Ser

<210> 27

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> YH18-con.

<400> 27

Lys Glu Leu Ala Asn Ile His Gly Ile Lys Leu Tyr Asp Glu Ile Leu
 1 5 10 15

Val Ser